

SOUTH CAROLINA PUBLIC SERVICE COMMISSION**DOCKET NO. 2019-185-E****DOCKET NO. 2019-186-E**

In the Matter of:)	DUKE ENERGY CAROLINAS,
)	LLC'S AND DUKE ENERGY
South Carolina Energy Freedom Act)	PROGRESS, LLC'S FIRST SET
(H.3659) Proceeding to Establish Each)	OF REQUESTS FOR
Electrical Utility's Standard Offer,)	PRODUCTION OF DOCUMENTS
Avoided Cost Methodologies, Form)	AND INTERROGATORIES TO
Contract Power Purchase Agreements,)	SOUTH CAROLINA SOLAR
Commitment to Sell Forms, and Any)	BUSINESS ALLIANCE, INC.
Other Terms or Conditions Necessary)	

Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (together, "Duke Energy" or the "Companies"), by and through their legal counsel, pursuant to Rule 103-833(C) of the Rules of Practice and Procedure of the South Carolina Public Service Commission, hereby serves South Carolina Solar Business Alliance, Inc. ("SBA") with the following First Set of Requests for Production and Interrogatories and request answers under oath to be provided on or before September 27, 2019, in order to allow the Companies the opportunity to review the answers prior to filing their Rebuttal Testimony on October 2, 2019.

Further, please take notice that these Requests for Production and Interrogatories are continuing in nature until the date of the hearing, and that any information or responsive materials identified after your responses have been served upon the undersigned counsel should be provided via supplemental discovery responses as soon as possible after such identification.

INSTRUCTIONS

1. Please produce the requested documents as they are kept in the usual course of business or to organize and label them to correspond with the categories in the Request. Documents attached to each other should not be separated.

2. In producing documents, furnish all documents known or available to you, regardless of whether such documents are possessed directly by you or your agents, real estate brokers or sales persons, employees, representatives, investigators, or by your attorneys or their agents, employees, representatives or investigators.

4. If any document otherwise responsive to any Request was, but is no longer, in your possession, subject to your control or in existence, identify each document by listing its author(s) and addressee(s), date, subject matter, whether the document(s) or copies are still in existence (and if so, their locations and the custodians), as well as whether the document is missing or lost, has been destroyed, has been transferred voluntarily to others, or has been otherwise disposed of. In each instance, explain the circumstances surrounding such disposition and identify the person(s) directing or authorizing its destruction or transfer, and the date(s) of such direction or authorization.

5. If a privilege not to answer a Request is claimed, identify each matter as to which the privilege is claimed, the nature of the privilege, and the legal and factual basis for each such claim.

6. Unless otherwise stated, the relevant time period for these Requests is from January 1, 2019, until the present.

7. Each Request shall be reproduced at the beginning of the response thereto.

8. Please provide copies of the information responsive to each Request in native electronic working format with all data and formulas intact.

9. Please provide responses to the following data requests electronically. To the extent this is impracticable, the responses, including any responsive Documents, should be provided at the offices of Sowell, Gray, Robinson, Stepp & Laffitte, LLC, 1310 Gadsden Street,

Columbia, South Carolina 29201, or some mutually convenient location otherwise agreed to by the parties.

DEFINITIONS

1. **“You”** and **“your”** means Intervenor South Carolina Solar Business Alliance, Inc. (“SBA”), SBA’s Witnesses in this proceeding, and all of its members, agents, representatives and attorneys.

2. **“Dockets”** means Commission Docket Nos. 201-185-E & 2019-186-E.

3. The term **“document”** is to be construed as broadly as permissible under Rule 34 of the South Carolina Rules of Civil Procedure and includes, but is not limited to, any printed, typewritten, handwritten or otherwise recorded information of whatever character, including, but not limited to, letters, memoranda, notes, diaries, reports, records, calendars, charts, audio and/or video tapes or discs, and photographs; computer programs or disks; electronic media records, however recorded and maintained, including, but not limited to, electronic mail, voicemail messages, digital photographs and electronically scanned records of any type; recorded observations, statements, conversations or formal affidavits. Any carbon or photocopy of any such materials upon which notations have been made and all drafts are also included.

4. **“Person”** means any natural person or any business, legal, or governmental entity or association.

5. The terms **“related to”** and **“relating to”** or any variation thereof shall be construed to include refer to, summarize, reflect, constitute, contain, embody, mention, show, comprise, evidence, discuss, describe, comment on, concerning, regarding, eluding to, pertaining to, probative of, in connection with, dealing with, in respect of, about, involved, identifying or proving.

6. **“Witnesses”** shall collectively meant the four witnesses (Mr. Jon Downey, Mr. Hamilton Davis, Mr. Steve Levitas, and Mr. Ed Burgess) whose prefiled testimony SBA filed in the Dockets on September 11, 2019.

7. **“PURPA”** means Section 210 of the Public Utility Regulatory Policies Act of 1978, 16 U.S. Code § 824a–3, as well as the regulations established by the Federal Energy Regulatory Commission to implement PURPA, 18 C.F.R. 292.101 *et seq.*

INTERROGATORIES

1-1. Please identify any testimony filed with a State Regulatory Authority or Orders issued by a State Regulatory Authority responsible for implementing PURPA that has recognized a “zone of reasonableness” in determining the utility’s avoided costs, as discussed by SBA Witness Burgess on pages 12-14 of his testimony.

ANSWER:

1-2. Please identify any production cost modeling work or production cost modeling studies that SBA Witness Burgess has completed on behalf of an electric utility, State Regulatory Authority responsible for implementing PURPA, or an intervenor in a proceeding before a State Regulatory Authority responsible for implementing PURPA within the last five (5) years as well as identification of the particular state docket number.

ANSWER:

1-3. Please explain whether SBA and Mr. Burgess agree that the methodology, assumptions and inputs used in determine the utility’s’ avoided cost should be consistent with the methodology, assumptions and inputs used in its most current system wide integrated resource planning process.

ANSWER:

1-4. With respect to SBA Witness Burgess statement at page 27 that “modern QFs (including solar) are largely dispatchable,” please explain in detail

- a. How Mr. Burgess is defining a dispatchable solar QF and include specific examples of modern dispatchable QFs known to Witness Burgess.
- b. Whether Mr. Burgess would agree that customers benefit where a utility can competitively procure power from a “dispatchable solar QF” at pricing at or below the utility’s standard avoided cost versus developing an “optional pricing scheme” at rates higher than the utility’s avoided costs.

ANSWER:

1-5. On page 28 of SBA Witness Burgess’ testimony, he states historically, natural gas prices have fluctuated dramatically; please provide the historic timeframe referenced by Mr. Burgess as well as any data utilized to support the claim of dramatic fluctuations.

ANSWER:

1-6. With respect to SBA Witness Burgess statement at page 29 that a fuel hedge “generally comes at an additional [cost] to the commodity itself,”

- a. Does Mr. Burgess agree that any fuel hedging cost is only avoided where the utility is otherwise incurring a hedging cost in excess of the cost of the avoided commodity (*i.e.*, natural gas)?
- b. Please identify whether Mr. Burgess has quantified the hedging cost of fuel commodities.

ANSWER:

1-7. With respect to SBA Witness Burgess testimony at pages 29-31 opposing the Companies proposal to “take the specific supply characteristics or ‘resource type’ of the QF into account” by inputting a solar generation profile for purposes of modeling the avoided energy cost of Large solar QFs,

- a. does Mr. Burgess agree that applying a solar generation profile to the 100 MW block of energy used in calculating avoided costs will more accurately quantify the utility’s avoided cost of energy delivered by a solar QF than modeling the generation profile of a baseload QF generator? If yes, please explain in detail why.
- b. does Mr. Burgess agree that relying upon a solar generation profile to develop the 100 MW block of energy to be used in quantifying avoided energy costs under the peaker methodology is not an “alternative methodology” or “different methodology” as suggested on page 30 of Mr. Burgess’ testimony. If no, please explain in detail why.
- c. does Mr. Burgess agree that utilities may take the QF’s supply characteristics into account in determining avoided costs, including, among others, the availability of capacity, the QF’s dispatchability, the QF’s reliability, and the value of the QF’s energy and capacity. If so, please explain in detail why Mr. Burgess suggest that “avoided energy cost rates for each type of QF should be technology neutral.”
- d. Please identify any State Regulatory Authorities of which Mr. Burgess is aware that have taken the specific characteristics of the QF selling and

delivering energy into to the utility into account in quantifying the QF's avoided costs.

ANSWER:

1-8. On page 32 of his testimony, SBA Witness Burgess lists coal ash expenditures Duke has requested recovery of; please provide your understanding of what expenses comprised these costs and provide any analysis you have conducted to demonstrate how the requested expenses could have been avoided by solar production.

ANSWER:

1-9. With respect to SBA Witness Burgess statement at page 51 that "it is worth noting that these inputs include several "zero" values, or values that appear to be lower than what is technically feasible." Please explain with specificity the model inputs to which Mr. Burgess is referring and why such inputs appear to be lower than is technically feasible.

ANSWER:

1-10. SBA Witness Burgess discusses extensively the perceived bias of Duke in establishing avoided cost rates; please provide a similar critique of the inherent bias that a solar provider or their representative would have in advocating for higher avoided cost rates.

ANSWER:

1-11. Please explain in detail what investigations SBA Witness Burgess undertook or what facts or documents support his statement at page 55 that the CT unit Duke used in the peaker methodology to quantify DEC's and DEP's avoided capacity cost "does not necessarily correspond to the cost of the peaking unit that Duke would ultimately select to meet future peak demand or provide other services."

ANSWER:

1-12. Please identify any documents or produce any analyses that would support Mr. Burgess assertion that Dominion Energy Virginia relies upon an aeroderivative CT at a forecasted cost of \$1,680/kW in applying the peaker methodology to quantify that utility's avoided costs.

ANSWER:

1-13. With respect to SBA Witness Burgess statement at page 58-59 that "As Duke has acknowledged, the EIA estimate of assumed peaker plant capital costs "does not include significant transmission system upgrades. These should be included to more accurately reflect the true avoided cost."

- a. Please identify any other utility or State Regulatory Authority implementing PURPA of which Mr. Burgess is aware that assumes Network Upgrades included in quantifying the avoided capacity value of the avoided CT unit.
- b. Please explain and identify any documents that support Mr. Burgess implicit suggestion that Xcel Energy recognizes an avoided transmission value of \$152/kW in calculating avoided capacity cost paid to QFs under PURPA.

ANSWER:

1-14. In regards to Mr. Burgess' statement on page 74 of his testimony which states "as shown in the figure below for 2015, the 5-minutes imbalance for DEP regularly deviates between +/- 200 MW and sometimes is even greater," please explain whether you believe an increase in the volatility of net load on the DEP system results in an increase in the magnitude of the 5-minute imbalances.

ANSWER:

1-15. In regards to Mr. Burgess' statement on page 77 of his testimony which states "the implications are significant. For example, Duke recently performed a sensitivity analysis for the North Carolina Utilities Commission on its integration study (the same study submitted in this proceeding) wherein the operation of its two balancing areas (DEP and DEC) was assumed to be combined rather than islanded," please explain whether, and if so, why, you believe it is realistic to assume that there are no transmission constraints between DEC and DEP and that each entity doesn't have independent BA operating reserve requirements.

ANSWER:

1-16. In regards to Mr. Burgess' statement on page 29 of his testimony which states, "the study scales up the variability in a linear fashion, as if the solar output all occurred in the exact same location," please provide a reference or citation indicating where Astrapé suggests that the variability representation is consistent with an assumption that all solar output occurs at the same location.

ANSWER:

1-17. With respect to Mr. Burgess' statement at page 62 of his testimony that "The addition of QF capacity would further increase Duke's capacity position, allowing for greater off system capacity sales." Please explain whether addition of QF capacity is needed to serve system load prior to 2026 for DEC or 2020 for DEP?

ANSWER:

1-18. In reference to page 49 of SBA Witness Burgess' testimony, please identify whether SBA has conducted any market potential studies or economic analyses to assess the potential for Duke to increase its winter demand response programs, and, if so, please provide the supporting analyses, data, and workpapers of the studies and explain in detail how Duke could accomplish this increase including expanding existing program or development of new programs.

ANSWER:

1-19. With respect to SBA Witness Burgess' statement on page 50 of his testimony which states that "DEP and DEC are both neighbors to several summer peaking utilities...", please provide a list of all summer peaking utilities that you characterize as neighbors.

ANSWER:

1-20. Please explain whether SBA's analysis of historical DEC and DEP load discussed on pages 51-53 of SBA Witness Burgess' testimony included any consideration of load net of "must take" solar output. If not, please explain why not and please provide the same analysis after

including the “must take” solar facilities for the “Existing plus Transition” levels of solar as included in the Solar Capacity Value Study provided in response to SBA Int 1-B.

ANSWER:

1-21. Please explain why SBA believes that the recommended seasonal allocation on page 53 of SBA Witness Burgess’ testimony would be fair and in different to DEC and DEP customers.

ANSWER:

1-22. With respect to SBA Witness Burgess’ statement at page 63 of his testimony that “Until recently, California used an approach whereby avoided cost estimations included a near-term avoided capacity value based on the prices of the state’s bilateral capacity market (also known as the Resource Adequacy market)” Please identify whether this discussion specifically reflects your understanding of California’ implementation of PURPA with regard to utilities’ obligation to pay QFs for avoided capacity and provide any applicable CPUC orders supporting your position.

ANSWER:

1-23. Please explain whether SBA believes that the recommendations proposed by SBA Witness Burgess, which substantively increases payments by DEC and DEP customers to solar QFs, is fair to Duke’s customers?

ANSWER:

1-24. Please explain who benefits from your recommendations to substantively increase the payments made by DEC and DEP customers to solar QFs.

ANSWER:

1-25. Please explain in detail whether SBA considers there to be any bias in the recommendations proposed by SBA Witness Burgess that substantively increase payments by DEC and DEP customers to solar QFs.

ANSWER:

REQUESTS FOR PRODUCTION

1-1. Please produce copies of all data requests, requests for production, interrogatories, or other communications that have been received by SBA in connection with this docket. Please produce these as soon as practicable after they are received. Please consider this an ongoing request.

RESPONSE:

1-2. Please produce copies of SBA's responses to all data requests, requests for production, interrogatories, or any other information provided by SBA in connection with this docket. This includes all documents, electronic files or other attachments that were that were provided, or made available for on-site inspection. Please produce these at the same time they are provided to the requesting party, or if that is impossible, as soon as practicable thereafter.

RESPONSE:

1-3. Please produce copies of all data requests, requests for production, interrogatories, or any other request for information that SBA has served on other parties in connection with this docket. Please produce these at the same time they are served on the other party. Please consider this an ongoing request.

RESPONSE:

1-4. Please produce copies of the responses to all data requests, requests for production, interrogatories, or any other request for information that Duke has served on other parties in

connection with this docket. Please produce these as soon as practicable after they are received. Please consider this an ongoing request.

RESPONSE:

1-5. Please produce any and all documents identified, referred to, or relied upon in preparing your response to Duke Energy's First Set of Interrogatories to SBA.

RESPONSE:

1-6. Please produce any and all documents identified, referred to, or relied upon in preparing your response to Duke Energy's First Set of Interrogatories to SBA

RESPONSE:

1-7. Please provide a copy of the studies referenced on page 17 of SBA Witness Burgess' testimony, footnotes 11 and 12 as these studies have restricted online access.

RESPONSE:

1-8. Please produce all documentation, studies, workpapers, and databases or data developed by or relied on by Your Witnesses in support of their testimony filed in the Dockets, including but not limited to:

- a. Workpapers in support of Witness Burgess' Table 1;
- b. Workpapers in support of Witness Burgess' analysis on pages 22-23 calculating percentage reductions in total avoided costs due to alleged negative avoided cost energy values;

- c. Workpapers in support of Witness Burgess' Figure 1 and Figure 2 on pages 25-26 of his testimony;
- d. All analyses and workpapers that Witness Burgess develops in his ongoing evaluation of Duke's proposed natural gas and coal prices as discussed on page 28 of his testimony.
- e. All analyses and workpapers that Witness Burgess relied upon to support his testimony at page 29 that "a hedge is automatically included and its value should be included in the avoided energy cost calculation."
- f. All analyses and workpapers that Witness Burgess relied upon to support his testimony at page 34 that "Comparing the marginal cost of DEP coal generation with the marginal cost of future DEP CC gas generation reveals that coal generation is over 1.5 times as expensive as gas generation over each of the next 10 years, with a 10-year average of 1.9 times as expensive."
- g. All analyses and workpapers that Witness Burgess relied upon to support his testimony at pages 39-42 proposing alternative avoided energy pricing periods.
- h. All analyses and workpapers that Witness Burgess relied upon to support his testimony at page 43 to determine DEP East's and DEC's marginal resource over a 10-year average period.
- i. All analyses and workpapers that Witness Burgess relied upon to support his testimony at page 46, Footnote 30, regarding shifting seasonal allocation of capacity value.
- j. All analyses or workpapers to support Witness Burgess' statement at page 59 that a "more conservative . . . value of \$120/kW be included in Duke's avoided cost calculation."
- k. All analyses or workpapers to support Witness Burgess' proposed calculation of an avoided CT cost at page 60 of his testimony.

1. All analyses, workpapers, or specific references to DEC's and DEP's OASIS website to support Witness Burgess' statements at page 74-75 of his testimony regarding Area Control Error deviations on the DEP-East Balancing Authority as represented on page 75 and in Figure 5.

RESPONSE:

1-9. Please produce all analytics documentation, studies, workpapers, and databases or data developed by or relied on by Mr. Burgess which demonstrate that neighboring utilities have more available resources to contribute to DEC/DEP than assumed by Astrapé, in regards to his statement on page 50 of his testimony that "in the meantime, I believe it is worth noting that DEP and DEC are both neighbors to several summer peaking utilities that are likely to have available resources to contribute to winter peaking needs."

RESPONSE:

1-10. Please produce all analytics documentation, studies, workpapers, and databases or data developed by or relied on by Mr. Burgess that supports his statement implying that reliability is of specific concern in the top 5% of load hours, specifically in regards to page 50 of his testimony which states "the top 5% of load hours during this historical period (i.e. the 95th percentile) the vast majority occurred during summer months (July and August) rather than winter months (December, January, and February)."

RESPONSE:

Dated this 13th day of September, 2019.

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